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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/678,483

10/02/2003

Michael J. Zipparo

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7590

05/25/2006

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AURORA, CO 80014

EXAMINER

FAYYAZ, NASHMIYA SAQIB

ART UNIT

PAPER NUMBER

2856

DATE MAILED: 05/25/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/678,483

Applicant(s)

ZIPPARO ET AL.

Examiner

Nashmiya S. Fayyaz

Art Unit

2856

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 March 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-29 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-29 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 1-29 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. In the specification, it is unclear how the electrical connection between the signal lines 22 in the support member 40 and the ultrasonic array is maintained i.e. how is the array "fixedly interconnected" to different electrically conductive members? There must be some form of interconnection between the two to hold them together. Also, claims 2, 7 and 18 appear to be repetitive of claim 1.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 1-9, and 18-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Connor et al- (US Patent # 5,398,689). As to claims 1, 7-9 and 22, as best understood, Connor et al disclose an ultrasonic probe assembly including a support member (interconnect 16), signal cable (high density flex circuit 26) with a plurality of conductors (conductor traces 32) where it appears the distal end portion of each of said traces appears to be embedded separately in the interconnect (note that the traces 32 are shown in cross-section in fig. 2 as embedded within adhesive 34), wherein a flexible primary portion of the signal cable extends proximally away in flexible shaft 14 and includes an electrically non-conductive material (adhesive 34 which would have to be non-conductive so as not the short out the traces), ultrasound transducer array 28 including elements 27 mounted directly to the interconnect 16, see col. 2, lines 61 et seq. and figs. 1 and 2. Further, the description of the interconnect is not given as

being made of acoustic dampening material with the index of claim 8 and having the traces being embedded within the interconnect. First, official notice is taken that the usage of acoustic dampening material surrounding electrical wires is old and very well-known in order to reduce cross-talk. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have recognized that the material with the proper dampening index of the interconnect would have to be comprised of acoustic dampening material in order to minimize cross-talk between the wires. The selection of a known material based upon its suitability for the intended use is a design consideration within the skill of the art. In re Leshin, 227 F.2d 197, 125 USPQ 416 (CCPA 1960). With regard to the traces being embedded, it would appear that in order to maintain the **integrity** of the electrical traces i.e. preventing short-circuiting, the traces would have to be separately embedded within the interconnect 16 as well since they extend continuously from the flexible circuit 26 which has the traces separately embedded within adhesive 34 to separate transducer elements. As to claim 2, the first side of interconnect being to the left in fig. 1 and the opposite side being to the right. As to claims 3, 4, 23 and 24, from the cross-sectional view of fig. 2, it would have been obvious to one of ordinary skill in the art at the time of the invention to have maintained substantially parallel paths in interconnect 16 in a one-to-one relationship. As to claims 5, 6, and 25, the details of the interconnect being comprised of two members with channels are not given, however to make

an integral unit separable is considered to have been a matter of design choice which would not result in unforeseen results. The mere fact that a given structure is integral does not preclude its consisting of various elements. See *Nerwin v. Erlichman*, 168 USPQ 177, 179 (PTO Bd. of Int. 1969). As to claim 19, note interconnect 24. As to claim 20, note PTFE sheath 80. As to claim 21, note electrical interconnect 24. As to claim 26, it appears that the support member interconnect substantially surrounds distal end portions of the traces 32.

Allowable Subject Matter

3. Claims 10-17 and 27-29 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

Response to Arguments

4. Applicant's arguments with respect to claims 1-29 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nashmiya S. Fayyaz whose telephone number is 571-272-2192. The examiner can normally be reached on Mondays and Wednesdays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hezron E. Williams can be reached on 571-272-2208.

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The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


NFayyaz
Examiner
Art Unit 2856

nf
5/17/06


DANIEL S. LARKIN
PRIMARY EXAMINER